

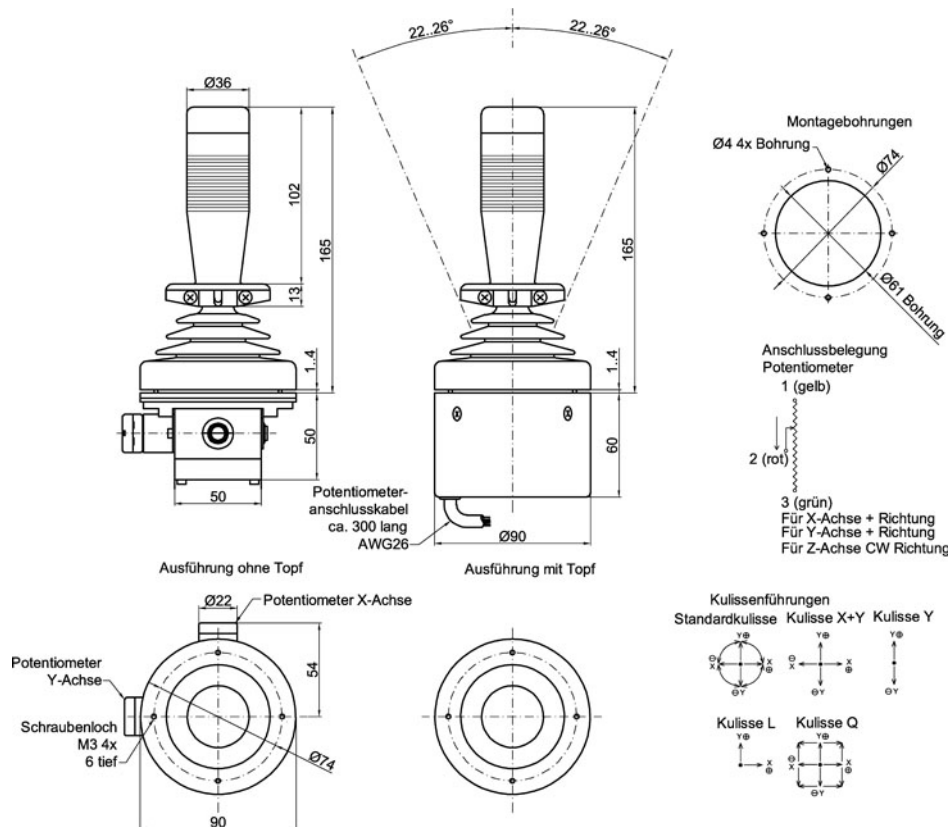
## 890 Hand-Joystick

- 1 to 3 Axes
- Protection Class IP65
- With or without center return
- High Life Time
- Optional up to 6 Micro Switches, Push Button in the Handle
- Applications:  
Cranes, Lift Trucks, Utility Vehicles, Construction Machines

The series 890 is an ideal solution for challenging and robust applications. Customized versions are possible. Please contact us.

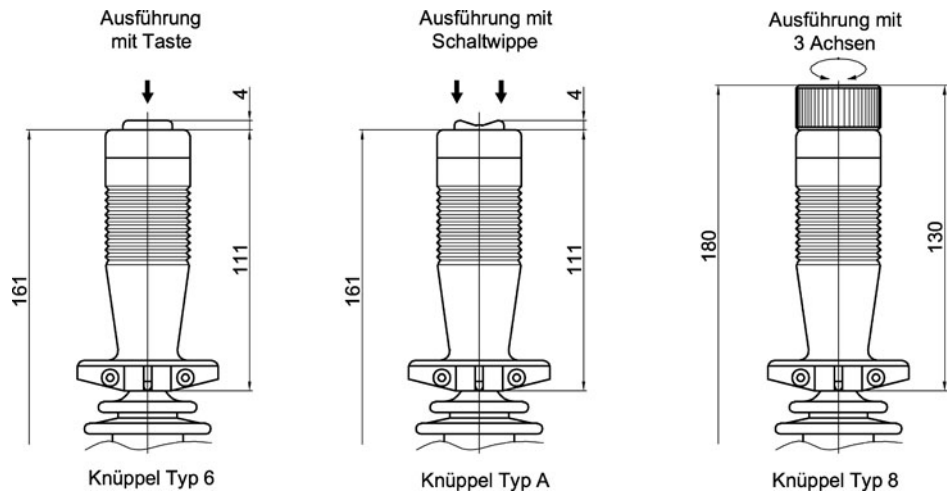


## Drawing

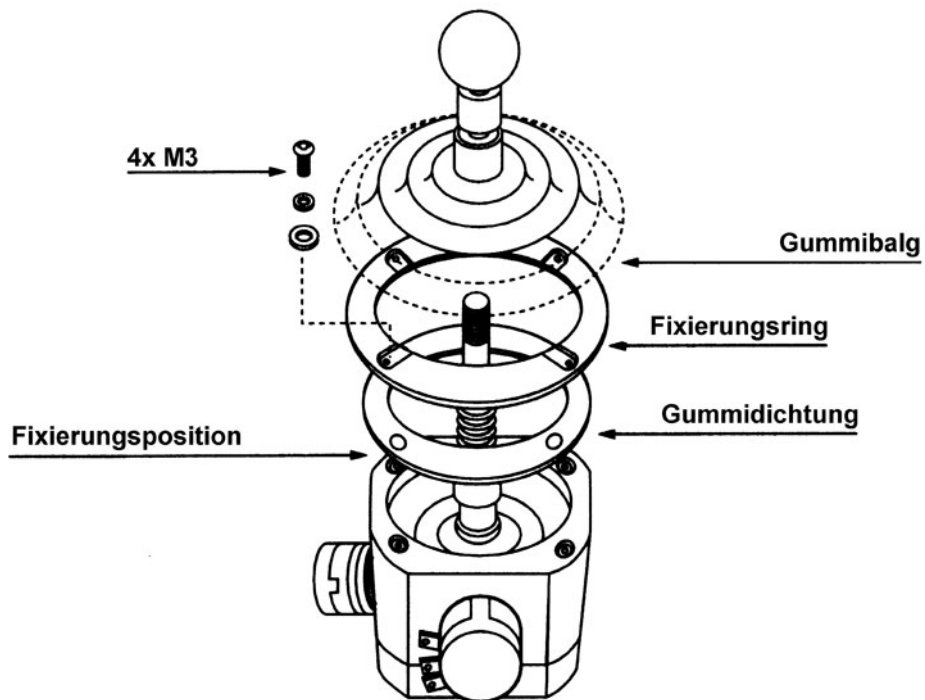


# 890 Hand-Joystick

## Handles



## Mounting



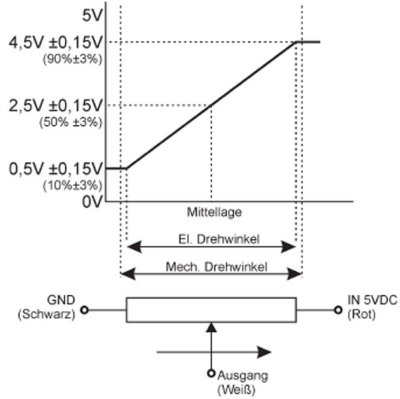
# 890 Hand-Joystick

## Technical Data

Deflection X-, Y-Axis	± 22° ... ± 26°	
Deflection Z-Axis	± 45° ... ± 50°	
Vibration 10 to 55Hz	10 g	
Shock	30 g	
Weight	≈ 650 g 2 axes, ≈ 750 g 3 axes	
Cable Length	300 mm	
Reset Accuracy to Center X + Y-Axis	± 2°	
Operating Temperature	-20 ... +65° C	
Operating Force X-, Y-Axis	2 ... 12 N	
Operating Force Z-Axis	20 ... 85 N	
Protection Class	IP65 above panel	
Panel Thickness	1 ... 4 mm	
Life Cycles (movements)	typ. 5 million (special versions up to 10 million.)	
<b>Data Potentiometric Sensor</b>	<b>X + Y-Axis Type F</b>	<b>Z-Axis Type D</b>
Technology Sensor Element	Conductive Plastic	
Resistance Value	10 kOhm	
Resistance Tolerance	± 15%	
Linearity Tolerance	± 3% F.S.	
Power at 70°C	0,2 W	0,3 W
Electrical Angle	44°	90°
Life Cycles (movements)	typical 5 million	
Bearing	Sleeve Bearing	
Maximum Wiper Current	1 mA	

## 890 Hand-Joystick

Hall Effekt Sensor	Type H	
Technology	Hall Sensor	
Supply Voltage	5 VDC $\pm$ 10%	
Current Consumption	$\approx$ 6 mA	
Output Voltage	0,5V ... 4,5V	
Independent Linearity	$\pm$ 3%	
Load Resistance	> 100 kOhm	
Resolution	infinite	
Temperature Drift Output	< $\pm$ 2,5% $U_{Out}$ FS	
Temperature Drift Center Pos.	< 0,5% $U_{Out}$ FS	
Insulation Strength	1 Minute / 250V AC	
Insulation Resistance	> 100 MOhm at 250V AC	
Operating Temperature	-20° C ... +65° C	
Life Cycles	typical 5 million	



### Micro Switch

The 890 Joystick controller series provides the additional option of directional switches at the X and Y axis. On each axis up to three switching positions are feasible, the angular position in relation to the axis deflection can be specified by the customer. In example a center detect switch and a directional switch at  $\pm 10^\circ$  deflection angle is viable. Due to the manifold combination possibilities, these combinations can not be included within the standard product configuration code, please inquire your special switch specification at our sales engineers.

Technical Data	Push Button (Handle)	Switch	Center Switch
Voltage / Current	250 VAC / 10A	125 VAC / 5A (30VDC / 100MA)	125 VAC / 5A
Life Cycles, typical*	300.000	200.000 (100.000)	200.000

\*)The life time has been tested under permissible voltage- and power ratings.

The specifications and information in this datasheet cannot consider all special demands that are caused by the application. Because of this, they are no general description of the properties of the product.

# 890 Hand-Joystick

## Options and Order Descripton

	Series	Axis	Bezel	Reset Device	Handle	Trimm	Sensor	Housing	Limiter Plate	Switch
<b>Joystick potentiometric / inductive</b>	<b>890</b>									
1 Axis		1								
2 Axes		2								
2 Axes with Push Button		3								
2 Axes with Rocker Switch		6								
3 Axes		4								
Rubber Boot			5							
Center Return				1						
without Center Return				2						
Friction Clutch with Center Grid X/Y Axis				5						
Friction Clutch				6						
Handle concave long					1					
Handle with Push Button					6					
3 Axes without Push Button					8					
2 Axes with Rocker Button					A					
without Trimm						1				
Potentiometer Type F for X + Y, Pot Type D for Z							4			
Potentiometer Type H for X + Y (contactless sensor)**							H			
without Housing Jar								0		
with Housing Jar								1		
Limiter Plate Standard round									1	
Limiter Plate square									2	
Limiter Plate L-shaped									3	
Forcible Control Y-Axis									6	
Forcible Control X-Axis									7	
Forcible Control X + Y Axis									9	
without Switch										0
Center Switch X + Y										1
Other Type of Switches										2

\*\* with Housing Type 0 only

Please ask for more options.

2008. All specifications are subject to change without notice.